
The 'Building Blocks' that Make Architecture

Dr. Roland Silva

It was T.S. Elliot who once said that, *"Time present and time past, are both perhaps present in time future, and that time future is contained in the time past."* The depth of such a thought is personified in the creations of humans in the **"soul of architecture"**. Creation, by legend, may then have been a divine hobby. It was perhaps only pro-creation that humans were permitted to recreate with, and that more as a past-time, than a planned assignment. The accepted norm to **"making architecture"** in ancient and medieval times, was to invite a builder, and request him to tastefully group various elements of nature consisting of minerals and plants, and use animals and humans to group these together to some function, as with **"building blocks"** of today. We believe, that the **"creator of composition"**, or the **"architect"**, relies on **"two streams"** of knowledge to produce the artifacts of his trade:

- a. The **"traditional stream"** of indigenous conventions and solutions, and
- b. The **"creativity component"** of that stream of intuitive knowledge, inert in the spiritual being:

Considering these two sources of material, as being the two elements of **"making architecture"**, the quantum of one to the other in any design is quite variable. In fact, it is only one element that is a variable, and the other is nearly static.

The **"traditional stream"** of indigenous conventions and solutions underlined the basic elements of architecture as

being **"function"**, **"structure"** and **"ornamentation"**. Let us for a moment see in greater depth the specific part that these identified elements, or the **"Building Blocks"** of architecture play.

Function

Let us in the first instance assume that every building has some function to perform although it could be very limited. Let us also clarify the converse to such a meaning in that, if the conglomerate of materials and voids serve no **"function"**, then it is not a building, and hence, not an element of architecture. Even a symbolic monument has a function in that, it is meant to be seen and enjoyed by humans and society, and one is able to move in and around it. On the other hand, a rubbish dump is not an item of architecture even though it is a collection of materials in some shape or form, but lacks an element of human function to any degree. Similarly, a shapely rock or a grouping of boulders can be very beautiful and be an item of high aesthetic appreciation to humans. However, it lacks the touch of it being a **"creation of man"**, and hence, not architecture. Thus the two vital elements for a conglomerate of materials for it to constitute as an element of architecture, is that it should be:

- a. man-made, and
- b. be related to a function to serve human society.

The expression of the term function of a building as created by the architect, is in the spatial distribution of volume in relation to its user, be it man, animal or mineral, but as a

component of human usage and as an activity of society.

Structure

The **"structure"** of an edifice constitutes the skeletal frame of the composition called architecture. It is not architecture by itself, but an element or a **"Building Block"** of the whole, formed by such groupings of materials in a mathematically calculated way, so as to form a stable frame. The components of a structure are the units of material used for its construction along with the binders that are used to tie these together according to some engineering **"formulae of balance"** and counter balance, under an **"equation of stability"**. Such a formation of structure can also have a multi-function in that these could be functional floors and **"space allocating"** walls. Or even stairways used as stabilizing buttresses to the structure which is the converse situation, where function serves a multi-function of being a structural element as well. Thus the structural element of architecture is that purposefully designed frame, evolved to hold the architectural expressions together in a stable way to contain a human shelter erected to serve society. The expression of such a structure in an architectural design is by grouping the horizontal and vertical units and spaces into a harmonious and stable frame using appropriate materials and balancing these to a mathematically worked out equations. Here the structural composition, can extend its purpose even to functional and even to ornamented elements of the resultant architecture.

Ornamentation

The stamp of "ornamentation" in architecture, by and large, assigns the edifices to their respective "cultural camps" of artistic creation. It would be such details of "ornamentation" that basically labels the architecture of humans to the surroundings, and ultimately to the geographical "provisions of Nature". Whatever the civilizations have been, it is Nature that has inspired the savants to the elements of architectural decoration. Be it the lotus to the Egyptians, the acanthus to the Greeks, the tree-of-life scrolls to the Romans, the rose window design to the Gothic builders, the *amalaka* fruit for the Indian *sikaras* artists, the onion domes to the Saracenic people, the mythical dragon to the Chinese architects, and the bamboo motifs to the Japanese designers, they all relished in their "aesthetic stew". It is mainly these elements that stand out, as the characteristic hallmark of "National architecture".

In contrast, the absence of such specific inherent markings, will distance the creations to a type of "international limbo". It is this trend of "neutral non-links" that percolated into the 20th century architecture, and it is the same movement that is still filtering into the 21st century. It is also this intellectual by-product or the abstract "non-ornament" offer, as well as the non-rejection of this "international-neutralism" by society, that has permitted mass sympathy towards recognizing these trends to a "global village aesthetics".

A marked move in this direction was seen in the philosophy of functionalistic architecture that heralded its hay-day soon after World War II. Then it was believed that if a design served its function, then the architecture so created, was also beautiful. The culmination of such expressions is seen in the designs of my colleague and friend Richard Rogers in his early expressions, as

at the Pompaiddo Centre. I call this "biological architecture", and I like its "biological expressions".

The ornamentation in such a functional building could be the ranges of colours, surface textures, the geometric forms, and the follies of follies that are found to be unending. The expression of architectural identity in such creations, is that of the creator and the creator alone, and not necessarily of Nature, or by the provisions of Nature. While the elements of architecture have been spelt out through their functional "influences that dictated their form". These elements in "making architecture", need to be seen under "stress functionalism" or through some other abstract sense of depth.

The Creative Component

The "building blocks" in "making architecture" has the second aspect of the "creative component", which is indeed, the dominant element in the most outstanding creations of the profession, especially after the middle of the 20th century, or subsequent to World War II.

The distribution of such building elements could well have been in a mixture of "aesthetically" pleasing arrangements, and in a "harmonious" way, involves as many possible permutations and combinations. The final objective was the sheltering of the different functions of humans, and of society. It is in the deeper understanding of the meaning of "aesthetic" and the concept of "harmony", that the term "aesthetic" is defined in the Oxford Concise Dictionary as: "*belonging to the appreciation of the beautiful, having such appreciation; in accordance with principles of good taste; philosophy of the beautiful or of Art....*" Coomaraswamy contributes the oriental concepts by interpreting the term "*rasa*". He says in the Encyclopaedia Britannica, under the theory of beauty: "*India developed*

....a theory of aesthetic experience of considerable importance in the history of aesthetic theory. A work of art is a statement informed by flavour (rasa); there are nine such flavours, the Erotic, Heroic, Odious, Furious, Terrible, Humorous, Wondrous, Pathetic and Peaceful. The component elements(physical stimulants of aesthetic experience) are Determinants (vidhava), Consequences (anubhava), Moods (bhava), and Involuntary Emotional conditions (sattnasbhava)." Coomaraswamy sums up the practical aspects of an aesthetic experience as: "*Aesthetic experience (rasavadan) is the tasting of rasa, and depends mainly on the innate and acquired sensibility of the spectator (rasika).*"

Harmony, on the other hand is defined in the Oxford Concise Dictionary as: "*State of being harmonious; agreeable effect of apt arrangement of parts....*". In reaching the philosophical context of this apt arrangement of "Building Blocks", let us see how Sidgwick draws on Plato's understanding of "harmony". "*His point is that perfect knowledge cannot be implanted in a soul [self] that has not gone through a course of preparation. What, then is this preparation? A distinct step in psychological analysis was taken when Plato recognized that its effect was to produce the "harmony" above mentioned among different parts of the soul [self], by subordinating the impulsive elements to reason.*" Thus we see the perfect balance of human judgement, consequent to the "indulgence" by its "aesthetic" experience, and in its "digestion" by the application of "harmony" or "reason".

However, Architecture is not entirely an abstract entity in "form", "texture", "colour", and such other compositions changing according to a given set of harmonies in sympathy to "light" and "shade", and even to "movement" according to an

accepted rhythm. Architecture needs one more vital element, and that is the incorporation of "**human behavior**" and their "**rhythmic style**" into the equation, along with the sensitivities of the nine appetites (*rasa*) of mankind. The creator of such a composition is called an "**architect**" (*sthapathi*) and the activity of such a creature is called, "**making architecture**".

An "Indigenous Tradition" in "Made Architecture"

"**Made architecture**" in the "**Indigenous Tradition**", is a composition of "**function**", "**structure**" and "**ornamentation**". In this regard, Banister Fletcher says, that the features that would mould a true composition in their style and quality are such aspects as: "**geographical**", "**geological**", "**climatic**", "**religious**", "**social**" and "**historical**", factors.

Geographical

Geographical situations such as "**desert sands**", or "**tropical rain forests**", or "**temperate and wooded**", or even "**arctic and ice bound**", are marked, contrasting, and clear situations that certainly can have a substantial influence on the architecture in such regions, and therefore, dictate their style and form.

Geological

From the earliest phase of settled humans, due no doubt, to the acceptance of an agrarian economy, humans used the materials nearest at hand to build their shelters. The forests had plenty of timber and the earth from the fields, proved to be the basic materials for the shelters. Leaves and agricultural by-products, covered the roofs of these dwellings. Thus the geological materials nearest at hand, were used in the initial phase.

Climatic

Climate is a powerful environmental element, that not only influences, but in fact, dictates the form of architecture. Climatic records spell out the quantum of rain, or no rain, and their intensity. The records of temperature at night and day, in winter and summer, are kept as national records from selected cities. Climatic records also identify the humidity levels of the air we breathe. National Laboratories maintain other vital statistics concerning the purity of the air, the ratios of pollen, and other such data. The wind records are another area of data gathering.

Religious

Religions have inspired the design concepts of architecture in an extended way, in all regions of the globe. Some specific sects even patronized a selected architectural style for all their religious edifices. It is believed that the Benedictines propagated the Gothic style, while the Jesuits spread the Baroque form.

Social

The social wants of a community may be viewed in its very infancy. For example, the "**tents of the nomads**" or "**the caves of the hunters**" or the "**huts of wattle and daub**", with the settled agricultural people, and the "**log houses with turf roofs**" of the lumberers, are the first steps to "**making architecture**".

Historical

In tracing the origins of civilization, one notices the preference of these settlers to river embankments. This meant that there was a steady "life-line of water" for householder use, and for agriculture. Hence, the early settlements continued to flourish in such fertile crescents.

Summary

We have in an abstract way touched mainly on the traditional concepts, leaving the aspects of creativity for subsequent consideration. Thus the conformists and traditionalists would uphold the bulk of these norms to the 'n'th degree. While the non-conformists and the anti-traditionalists, will fight hard to express their divergent convictions. Thus, the full range of activity with "**building blocks**" in the "**making of architecture**", lay somewhere between the "**traditional stream**" and the "**creative stream**".

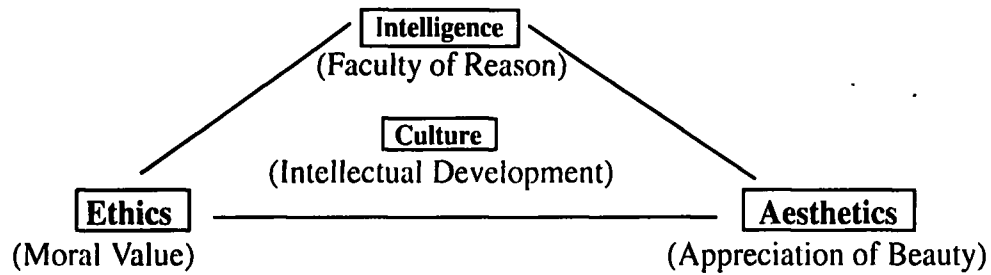
The "Creative Genius" in "Made Architecture"

The creative element or the "**Building Blocks**" that constitute it, in humans can arise out of a sense of inner feeling or urge, to react either in contrast, or to act in non-conformity to social trends. Yet others can create a new discovery of conformity in a more personalized application of traditional elements, along with new perception of fresh designs, undiscovered previously. In other words, a deeper sense of "**soul searching**" and a success story, as an outcome.

If one were to review the question of Man's evolution, and observe closely those features of "**Homo Sapiens**" that have moved him from "**animality**" to "**humanity**" they are three in number:

1. Intelligence (Faculty to Reason).
2. Ethics (Ability to establish Moral Values).
3. Aesthetics (Ability to appreciate Beauty).

By triangulating the three meanings of **intelligence**, **ethics** and **aesthetics**, one achieves one of the end objectives of this search, namely, in discovering "**culture**" in its definition and as spelt out in the Oxford Dictionary to mean, "**intellectual development**"



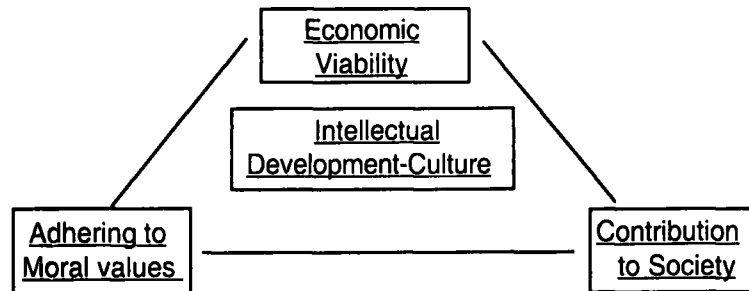
On the other hand what are the obligations of Man to himself and his community? I raise this question because any product resulting from a combination of "intelligence", "ethics" or "aesthetics" cannot be made to float in mid air. There needs to be the audience to receive it, and if reasonable, to appreciate it. Hence, a type of mundane and down to earth

realities may emerge such as:

1. Economic Viability.
2. Adhering to moral values.
3. Contributions to society.

If these obligations are triangulated, the "leisure moments" of humans can be set apart for "Intellectual

development " or "culture". It is this creative component of the stream of intuitive knowledge, inert in the spiritual being of each human, that we need to harness to imbibe the products of geni, who with "intelligence", "ethics" and "aesthetics", can tittle the "cultural pallets" of man and community



What indeed therefore, is the term "culture" or "intellectual development"? Let us in the first instance clear our Mind of any high flown fallacies. Let us both biologically and in our mind's eye analyse this concept of "culture" and the "intellect". The capacity of Man to absorb or assimilate any form of action that would rouse his inner self (atman), are six in number, five of which are biological and the sixth, spiritual, namely:

1. Sight
2. Hearing
3. Smell – Biological
4. Touch
5. Taste
6. Thought – Spiritual

As such all activities whether cultural or any other must enter the self of Man through these six openings. Jacques Maritain, talking about Nature and Man, states; "... in connection with aesthetic feeling there is always, to some degree, a

sort of invasion of Nature by Man. Take the objects of aesthetic delight which are the most completely remote from any impact of humanity say, either a beautiful abstract mathematical demonstration, or in the domain of art, a beautiful abstract arrangement, an Arabic mosaic or piece of stucco work; - or a shining flower, a gleaming sunset, a tropical bird; - or any of the great spectacles offered by wild Nature, desert, virgin forest, mountains, or those big noisy waterfalls which offer innumerable families of tourists the thrill of the sublime.

Everywhere, in reality, Man is there, under cover. Man's measure is present, though hidden". Maritain, who made these comments in his lecture given in the spring of 1952 to the National Gallery of Art in Washington, certainly covered a very wide spectrum of human sensitivity concerning the subject of "Aesthetics". He clearly picked

on the simple encounters of daily life without unnecessarily attempting to elevate the subject of Aesthetics to the abstractions that we are generally accustomed to and that have, consequently, left a deep gauge of distaste in the "aesthetic pallets" of the general public. Thus we see that the range of "culture" experienced through the subject of "aesthetics" is well within the appreciation of Mankind and certainly not a subject of purview by an exclusive minority of "culture vultures".

Our view is that "culture" is the assimilation of the sum total of the "aesthetic appetites" of Man within the guidance of his individual "ethics" and under the judgement of his "intelligence". In short, be it the "appetite" of the sight, hearing, smell, touch, taste or thought, and if it be within the purview of his moral judgement, it is indeed, Man's "cultural" experience. It is for this reason that Ananda Coomaraswamy theorized on the concept of

"aesthetics" as we have seen previously in terms of the orient. We trust that some of these **"appetites"** listed by Coomaraswamy have been qualified under the phrase **"acquired sensibility of the spectator,"** which we previously called, **"moral judgement"**.

Maritain edges us on to examples, of **"cultural appetites"** or as Coomaraswamy calls **"rasa"**. He identifies two forms: *"First, Nature is all the more beautiful as it is laden with emotion. Emotion is essential in the perception of beauty. But what sort of emotion? It is not ... brute or merely subjective. It is one with knowledge: Like the emotion produced by [Slow clouds moving in the sky, or the immensity of the sea] It constitutes or integrates a delight involved in a vision. Such an emotion draws the mind towards things known and towards knowing more. And so induces dream in us. Second, the signs ... [Travelling in New York subway enjoying a ceaselessly renewed exhibition of Cezanne's, Hogarth's, or Gauguin's figures, offered free of charge by nature,] As a rule, virtual or latent, at least at that moment .. by the impact of beauty. No .. idea, is expressed .. yet, for all that, . Unexpressed significance, unexpressed meanings, unconsciously putting pressure on the mind, play an important part in aesthetic feeling and the perception of beauty"*. Thus we see that the **"cultural appetites"** need not always be of immediate response. It could have latent reactions due to subsequent perception. The examples quoted by Maritain are indeed the simplest things of everyday life covering the aesthetics of a cloud formation or the beauty in the expression of faces of people in a subway. Thus the quality of Cultural experience can be stimulated by the things around us instead of searching for those in **"hot-houses"** or **"cold rooms"** of forced storage.

Architecture

Architecture has been referred to by Ruskin as being the mother of all arts.

It is this fabric of material and mind that sets the frame for the many expressions of man, be it Painting, Sculpture or Music. The Manasara a 7th century text on Architecture from India refers to Music as a healthy parallel art in the study of Architecture and its Aesthetics. It says: *"Music assists in the use of Harmony and in mathematical proportions"*. Architecture is the **"tree"** on which the **"other arts rest"**. The creator of Architecture or an Architect has been defined by Shute in 1563 as *"being referred to as a painter and architect"*. Ruskin in 1854 is more precise when he says about Architects, *"No person who is not a great sculptor or painter can only be a builder"* The Manasara refers once more, to the divine Architect Visvakarma as being born with four faces like those of Brahma and others, who brought forth four sons, the **Sthapati** or Architect, **Sutragrahi** or Draughtsman, **Vardhaki** or Painter and **Takshaka** or Carver. Thus the equation of oriental thinking along with occidental practices which are both related here.

The aesthetics of architecture is taken up by Vitruvius of Roman times when he deals with the proportions of buildings, *"proportions is that acceptable harmony between the several parts of a building which is the result of a regular and acceptable agreement of each to another. For example, the height to the width, and this in turn to the length, and each of these to the whole. Uniformity is the parity of the parts to one another, and these corresponding to their opposites as in the human figure. The arms, feet, hands, fingers to one another, as should the respective parts of a building, should correspond to each other."*

In more recent times Frank Lloyd Wright touches in his credo the need to be sensitive to the **"aesthetics of materials"** in

Architecture. He says, *"Bring out the nature of wood, plaster, brick or stone for they by nature are both friendly and beautiful. No work of art could be a matter of fine art, if these truly natural characteristics are either ignored or neglected."* The examples relating to aesthetics of Architecture in the creative facet are unending, be it Le Corbusier with his Modular or any of the recent giants of the 20th century. Or the traditional **"golden section"** of earlier times, the concepts of **"properties"**, **"colour"**, **"texture"** and **"balance"**, are all worthy components to the pure aesthetics, of any work of Architecture.

Summary

In viewing the depth of **"making architecture"** using the **"building blocks"** of **"indigenous tradition"** or the **"Creative Genius"** that is inert in man, one may draw a broad conclusion that the accent on **"indigenous tradition"** was strongest in the pre World War II phase or upto the middle of the 20th century. Thereafter, the flamboyancy of expression was foremost and the **"creative genius"** of professionals were sharpened to unique designs that may not have found any parallel in the history of **"making architecture"**. This does not mean that **"creative genius"** as with Gaudi did not exist before the middle of the 20th century, nor do we say that **"Indigenous Traditions"** ceased to be after World War II.

Conclusion

In conclusion, it is this thread of **"indigenous tradition"** that has accumulated through the ages in the genii of **"national creativity"**. This process, inbred through generations of **"creative genius"** in the concept of the individuality of a building that **"make architecture"**, of a **"personality cult"**. It is an admixture of these, that historians and other writers tend to categorize under a common title of a **"national style"** be it be, British, French, German or Japanese, Chinese, Indonesian or Indian, Burmese or Sri Lankan.